

B-4431 BGE Melvale Water less Gas Holder Baltimore City MD Aaron Levin Tha 1 8/6/12 MDSHPO 13-4431 Zo12-08-06\_10.+if

Valve House NE facade, view SW

10/17



B-4431 BGE Melvale Warmiess Gas Holden Baltimore City, MD Acran Levinina 1 8/6/12 MOSHPO B-4431\_2012-08-06\_11.+:F Valve House NE Facade + Well, view SE

11/17

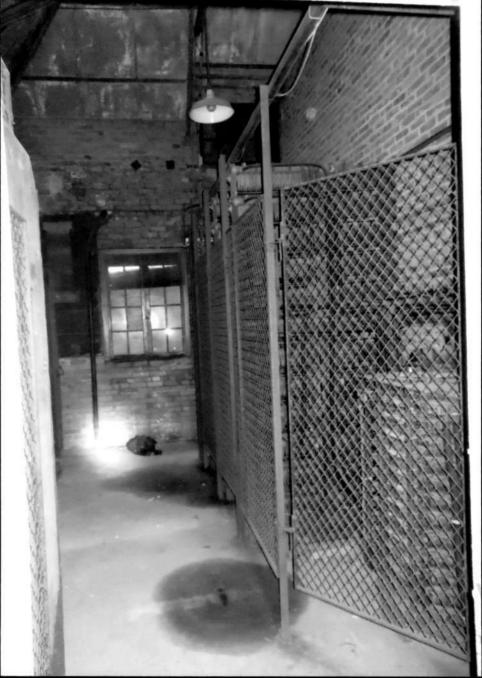


B-4431 BGEMelvale Waterless Gas Holder Baltimore City, MD Havan Levin Mal 8/6/12 MDSHPO B-4431\_2012-08-06\_12.+if Valve House SEfacade, view W

12/17



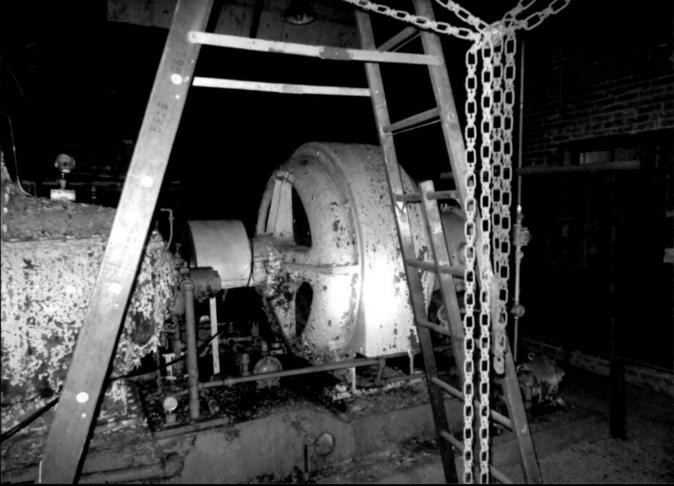
B-4431 BGEMelvale Warm less Gas Holder Baltimore City MD Novem Levin Mal 8/6/12 MD SHPO B-4431 2012-08-06\_13.T.F Valve House office in terror, view NW 13/17



B-41-131 BGE Melvale Waterless Gas Holder Baltimore City, MD Beron Levin Man 1 8/6/12 MDSHPO B-4431 2012-08-06,14,716, Valve House Electric Room Interior, view SW 14/17



B-4431 BGE Melvale Water 1855 Gas Holder Baltimore City, MD Acran Levin That 8/6/12 MD SHPO B-4431\_ 2012-08-06 15.+if Valve House Main Room, equipment, view NE 15/17



B-44131 BGE Mellale Water less Gas Holder Baltimore City, MD Awan LevinThal 8/6/12 MD SHPO 13-4431 2012-08-06 16. tif Valve House Main Room, equipment, view SV 16/17



B-4431 RGE Melvale Waterless Cas Holder Baltimore City, MD Acron Levin Tha! 8/6/12 MDSHPO B-44131\_ 2012-08-06 17. +if Electric Station, VIEW W 17/17

# Maryland Historical Trust State Historic Sites Inventory Form

MARYLAND INVENTORY OF

Survey No. B-4431

Magi No.

DOE \_\_yes \_\_no

4 No.				
1. Nam	e (indicate pr	eferred name)		
historic Gas h	nolder, Waterless			
and/or common				
2. Loca	ation			
street & number	South of Cold Spri	ng Lane, West of I-	83	I/A not for publication
city, town Balti	imore City	vicinity of	congressional district	7th
state Maryl	Land	county	N/A	
3. Clas	sification			
Category  district building(s)X structure site object	Ownership public both Public Acquisition X in process being considerednot_applicable	Status  occupied unoccupied work in progress Accessible yes: restricted yes: unrestricted X no	Present Use agriculture commercial educational entertainment governmentX industrial military	museum park private residence religious scientific transportation other:
4. Own	er of Prope	rty (give names a	nd mailing addresse	s of <u>all</u> owners)
name BG&E				
	39 W. Lexington S	t.	telephone n	o.:410-234-5000
	timore		and zip code MD 2	
		al Description		1201
				50 1758 ACCES 10 2020
		uit Court of Baltimo	ore City	liber SCL5289
street & number	City Hall 100 N. 1	Holliday St.		folio 353
	y of Baltimore	1 V2	state	
6. Repr	resentation	in Existing	Historical Surv	reys
title N/A				
date			federal stat	te county loca
pository for su	rvev records			•
city town	,	4	etata	

	7.	<b>Description</b>
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Survey No. B-4431

Condition excellent	deteriorated	Check one	Check one X original site	
X good fair	ruins unexposed	altered	moved date of move	_

Prepare both a summary paragraph and a general description of the resource and its various elements as it exists today.

SEE CONTINUATION SHEETS

8. Si	gnificance		Survey No.	в-4431
Period  — prehist  1400-1  1500-1  1600-1  — 1700-1  _ 1800-1  X 1900-	oric archeology-prei 199 archeology-hist 199 agriculture 199 architecture 199 art 199 commerce	economics education X engineering exploration/settle	ing landscape archi law literature military music ement philosophy	science sculpture social/ humanitarian theater
Specific da	tes 1932	Builder/Architect	Bartlett-Hayward Co	mpany
A	and/or pplicable Exception	<u>XA</u> <u>B</u> <u>XC</u> <u>D</u> : <u>A</u> <u>B</u> <u>C</u> <u>D</u> e:nationalstat		
Prepare h	oth a summary parag	raph of significance a	und a general statem	ment of history and
		SEE CONTINUATION :	SHEETS	

SEE CONTINUATION SHEETS

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Zone Easting Northing	لبيا	B Zone Eastin	ng Northing
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List all states and counties for pro	perties overlap	ping state or county l	ooundaries
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state  11. Form Prepare  name/title Katherine Grandine, H	code d By istorian and	county  Elaine Kiernan, I	code
state	code d By istorian and win & Assoc.	county  Elaine Kiernan, I	reservation Planner

The Maryland Historic Sites Inventory was officially created by an Act of the Maryland Legislature to be found in the Annotated Code of Maryland, Article 41, Section 181 KA, 1974 supplement.

The survey and inventory are being prepared for information and record purposes only and do not constitute any infringement of individual property rights.

return to:

Maryland Historical Trust Shaw House 21 State Circle

Annapolis, Maryland 21401 (301) 269-2438

MARYLAND HISTORICAL TRUST
DHCP/DHCD
100 COMMUNITY PLACE
CROWNSVILLE, MD 21032-2023
-514-7600

SECTION 7: DESCRIPTION
CONTRIBUTING RESOURCE COUNT: 2

# Summmary

The BGE waterless gas holder complex is located south of Cold Spring Lane, west of Jones Falls. A massive metal gas holder, a one-story brick gas valve house, and modern metal transformers currently occupy the property. The entire site is fenced by modern metal chain link fences. The property is bounded on the east by Jones Falls, the MTA light rail line, and Interstate 83. The interchange with I-83 and Cold Spring Lane, completed during the 1950s and 1960s, is located north of the site. Modern one-story business buildings constructed during the 1970s and 1980s are located between the gas holder and Cold Spring Lane. Wooded areas owned by the City of Baltimore border the property on the west and south sides.

#### Description

The gas holder complex operated as a gas storage and distribution station within BGE's overall gas distribution system. A 30-inch pipeline that brought gas to the holder entered the property from the northwest. The gas holder stored the gas. The one-story, brick gas meter house contained the controls that monitored the levels of the stored gas and the flow of gas to and from the holder. Distribution from the holder occurred through a 24-inch line that extended east of the valve house under Jones Falls. During 1997, the distribution station was taken off-line and the gas holder was emptied.

The massive, gray, waterless gas holder occupies the southeastern corner of the cleared portion of the property. The gas holder was designed to hold seven million cubic feet of gas. The diameter of the gas holder is 218 ft; its height is 228 ft 10 in. The gas holder is set on a concrete slab. It is constructed of riveted metal. The metal framing is visible on the exterior. Vertical metal posts support horizontal metal plates. While the concrete slab is circular, the actual structure is polygonal. The framework supports three exterior catwalks; each catwalk demarcates approximately one third of the height of the structure. A cylindrical elevator and enclosed exterior staircase are attached to the south section of the structure.

The interior of the gas holder is smooth. A steel ribbed piston is located inside the structure. The piston measures 150 ft in diameter and is 200 ft high. The piston is sealed to the exterior metal shell with a canvas sealant cup. The piston was designed to rise and fall in response to the level of gas in the holder, thus maintaining constant pressure on the gas to ensure even distribution. A forced air system fed through vents on the metal roof kept pressure on the piston. A low level of pressure, 3 pounds per square inch (psi), was required to distribute the gas.

The gas meter house is located 60 ft northwest of the gasholder. This one-story, rectangular building measures approximately 48 (five bays) x 39 ft (three bays). Its purpose was to control the gas flow to and from the gas holder. The building is constructed of dark red brick glazed with blue accents; the bricks are laid in stretcher bond. The gas meter house features a flat-topped hipped roof clad in slate. Two shallow flat-roofed dormers project from the

northwest and southeast elevations. A plain wood soffit marks the cornice line. The windows are wood-frame casement units; the windows were covered with plywood at the time of the December 1997 survey. Shallow polygonal bay windows project from the northwest and southeast elevations. The main entry is located in the northeast elevation. The entryway features a plain wood surround and contains paired metal doors. One set of paired wood-paneled doors is retained on the southwest elevation. A brick chimney projects from the southeast elevation of the roof; it is capped by two terra cotta chimney pots. At the time of the December 1997 survey, the interior of the building was not accessible. Modern metal transformers set on a concrete slab are located north of the gas meter house.

**SECTION 8: SIGNIFICANCE** 

## **Summary Statement**

The evaluation of significance and integrity of the polygonal waterless gas holder and a gas meter house near Cold Spring Lane applying the National Register Criteria for Evaluation was undertaken by R. Christopher Goodwin and Associates, Inc., for Whitman, Requardt and Associates of Baltimore, Maryland, on behalf of the Maryland Transit Administration (MTA) pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended, and to Article 83B, §5-617 and 5-618 of the Annotated Code of Maryland. The MTA plans to construct a parking facility on the site. The current plans call for the removal of the structures and the building comprising the gas holder complex.

The district gas holder complex at Cold Spring Lane was constructed in 1932 by the Consolidated Gas Electric Light and Power Company. The polygonal waterless gas holder was constructed as one isolated component of the gas utility's distribution system, and stored gas to supply customers located in the northern portions of City of Baltimore. The waterless gas holder represents a stage in the evolution of gas holder technology from water-sealed holding technology to waterless technology. The polygonal waterless gas holder was constructed from plans developed in Germany that were introduced to the U.S. market in 1924 and used until gas holder design was modified into the current circular form in late 1932. However, the Cold Spring Road gas holder was not the first of its type to be constructed in the United States, but was constructed just as the polygonal form was being replaced by newer technology. The Cold Spring Lane gas holder does not represent a significant physical design or construction, notable for its engineering or architectural merit under Criterion C.

The complex was built in response to the twentieth-century growth of gas service. Research did not uncover important associations of the resource with the technology of gas manufacturing and production to supply customers in the City of Baltimore. The gas holder complex is not associated with events that have made a significant contribution to the broad patterns of U.S. history under Criterion A.

Archival research does not indicate that the gas holder complex is associated with the lives of persons significant to U.S. history under Criterion B. The technology was developed initially by a German engineer and transferred to the U.S. through the acquisition of patent rights by the firm of Bartlett-Hayward Company. In conclusion, the gas holder complex does not possess the qualities of individual significance necessary for listing in the National Register of Historic Places, and it is not part of an historic district.

### **Historic Context**

The polygonal waterless gas holder and meter house located south of Cold Spring Lane were constructed in 1932 for the Consolidated Gas Electric Light and Power Company, the forerunner of Baltimore Gas & Electric Company (BGE). The complex was constructed as part of the gas utility's distribution system to supply the growing number of gas utility customers

located in the northern portions of Baltimore. The plant is located approximately 2.5 miles from the Spring Garden gas plant, the center of production of manufactured gas used by BGE until the 1950s.

As a district gas holder, the purpose of the complex was to ensure sufficient pressure on the distribution lines in outlying areas by storing gas for release into the distribution system during time of peak gas usage. A 1932 newspaper story revealed that the location of the complex was selected after residents of northeast Baltimore objected to a proposed site on Belair Road (Baltimore *Sun*, 23 July 1932). Although residents of Roland Park, Hampden, and Woodberry opposed construction of the gas holder, the City Council passed an ordinance allowing construction of the complex. The City Council decided that the site was sufficiently isolated from nearby residences due to the steep slope of the topography surrounding the site to screen the structure. The Mayor of Baltimore City was quoted:

"We all agree that gasholders are not sightly structures and do not add to the appearance of the landscape, but, unfortunately, are one of the requisites for a well-appointed city and, therefore, we must expect them to be located within convenient access of the territory which they are to serve" (Baltimore Sun, 9 February 1932).

The polygonal waterless gas holder was designed and constructed by the Bartlett - Hayward Company, a Baltimore firm that was the national leader in gas holder construction. The Bartlett Hayward Company began its association with the gas industry in 1876 when the president of the company also served as the president of newly established Consumers Mutual Gas Company of Baltimore. The Bartlett Hayward Company constructed its first gas holder in 1876. Between 1876 and 1941, the construction of gas holders and gas works comprised a major market sector for the company. By 1941, the Bartlett Hayward Company had constructed 600 gas holders (Latrobe 1941).

#### Overview of the Gas Industry in Baltimore

Although gas has been known as a fuel from ancient days, the technology to exploit gas for practical uses was not developed until the late eighteenth century. Gas was used as an alternative light source to candles and lamps initially in Europe. During the 1790s, William Murdock experimented with gas lights in his home and at shops. In 1812, David Melville of Newport, Rhode Island, was the first house owner in the United States to light his house using gas manufactured from coal (Norman 1922). The first U.S. company to obtain a franchise to provide gas to the public was the Gas Light Company of Baltimore, chartered in 1816 and incorporated in 1817. Rembrandt Peale, one of the founders of the company, lit his famous museum with gas lights (Sun 19 July 1931).

The Gas Light Company of Baltimore grew slowly. By 1836, the company installed two miles of gas mains in the city. By 1846, the gas company owned four gas holders with a total storage capacity of 140,000 cubic feet of gas. By 1850, gas lighting was found in many upper class homes in Baltimore (Olson 1980). By 1855, the demand for gas required the construction of a new gas plant at Spring Garden near the harbor in downtown Baltimore. During the year 1857, the plant manufactured 126,273,000 cubic feet of gas from the distillation of coal.

After the Civil War, other gas companies succeeded in entered the Baltimore market. During the 1870s, three separate companies were in operation. The original Gas Light Company manufactured coal gas at their plant in Spring Garden. The People's Gas Company, established in 1871, also manufactured coal gas at a plant located at the foot of Scott Street. The Consumers Mutual Gas Company introduced Lowe's water gas process to Baltimore at their plant at Lancaster Street and Harris Creek. In 1880, the three companies merged to form the Consolidated Gas Company of Baltimore. Outside competition forced a reorganization in 1888. At that time, the City of Baltimore boasted 200 miles of gas mains (Olson 1980) that were merged into one system.

Initially, gas was marketed for gas lighting, and, until 1890, 95 per cent of gas was used for illumination. After the advent of electric lighting, the gas industry exploited marketing possibilities for cooking, heating, refrigeration, and industrial applications. By 1911, 50 per cent of gas was sold during daylight hours, reflecting the switch from lighting at night to cooking and heating during the day. By the 1930s, 99 per cent of gas was used for cooking, heating, refrigeration, domestic appliances, gas engines for industrial purposes, and industrial appliances (King 1950).

In 1906, the electric and gas utility companies merged into the Consolidated Gas, Electric Light and Power Company (Olson 1980). During 1911, the manufacturing capacity of the Spring Garden gas plant was increased from a total capacity of 6,000,000 cubic feet of gas to a capacity of 18,000,000 cubic feet per day (King 1950). By the 1930s, 1,300 miles of gas mains were located within the Baltimore territory, an area comprising approximately 175 square miles with a population of about 895,000 (Baltimore Sun 1931). By 1950, the gas distribution system included the main manufacturing plant at Spring Garden and fifteen pumping, purification, and holding stations in outlying areas. The outlying territory included areas such as Havre de Grace, Belair, Westminster, Laurel, and Annapolis (King 1950).

#### Manufactured Gas Production

Until the 1950s, the gas dispensed to Baltimore customers gas manufactured in gas plants. The largest gas plant in Baltimore was constructed at Spring Garden. Begun in 1855 on 9 acres of land, the plant produced 126,273,000 cubic feet of gas from coal in 1857 (King 1950). After the introduction the Lowe water gas production system in 1874 and the consolidation of the gas companies, the water gas system was installed at the Spring Garden plant. By 1931, the Spring Garden plant encompassed 57 acres.

The plant was organized to contain raw materials necessary for the production of manufactured gas, i.e., coal piles and oil tanks. A large industrial building contained a battery of furnaces, known as retorts, to manufacture gas. The site also contained buildings to purify the gas, test its quality, and meter it into the distribution system. Gas holders on the property stored the gas until it was dispensed into the distribution system (Baltimore *Sun* 1931).

The gas supplied to consumers comprised three types. Coke-oven gas was produced as a by-product of the Bethlehem steel mills at Sparrows Point in Baltimore and was piped to the Spring Garden plant. The Spring Garden plant itself produced water gas and oil gas to mix with the coke-oven gas to achieve a gas with 500 BTUs (British Thermal Units), a standard

measure of heating capacity (Baltimore *Sun* 1931). During the 1930s, a nearby oil refinery became the source of supply for oil gas (BGE 1941). After BGE switched to natural gas during the 1950s, the Spring Garden plant was used to manufacture high BTU oil gas for peak periods. The plant remained in use until the late 1960s and was the largest single plant of its kind in the United States (Pratt Library, Vertical File, BG&E).

#### Evolution of Gas Holders

Gas holders were invented as utilitarian structures to contain gas, to maintain gas supplies, and to aid in the distribution of gas. The idea for the gas holder was developed by the French chemist Lavoiser in 1781 for use in laboratory testing. This new development made it possible to collect and store larger quantities of gas for longer periods of time. Prior to this invention, gas had been stored in animal bladders or parchment bags, both of which were susceptible to leakage. The first cylindrical gas holder was built in 1816-17 by Samuel Clegg, engineer for the London and Westminster Gas Light and Coke Company. The gas holder used water incased in wooden or cast iron vats in which the container in which the gas was stored would float. The floating tank was guided on frames constructed of cast iron columns and girders. In this type of gas holder, the depth of the water had to equal that of the bell of the gas container, necessitating the construction of large tanks. The construction of holders large and deep enough to accommodate the demand for gas quickly became cost prohibitive. A telescopic gas holder was developed to replace the single lift holders (Morgan 1935:3-4,12).

Although requiring less water than the single lift gas holder, the telescopic or multiple lift gas holder used water as well. This type consisted of one bell and two or more lifts. The bell was the top of the gas container. As gas was forced into the container, the bell would rise. The base of the bell would emerge from the water in which it rested, forming a water seal through which the gas could not pass. The telescopic lift required an internal latticed frame and guide rollers to direct the path of the tank as it rose and fell according to the level of gas (Latrobe 1941:132; Morgan 1935:4-5).

The exteriors of early telescopic gas holders generally were constructed of brick and were either buried, semi-buried, or above ground. Later, reinforced concrete was used for buried and semi-buried holders, while steel set on a reinforced concrete foundation was used for above ground gas holders.

The telescopic gas holder had the advantage of greater gas storage than a single lift holder while occupying the same amount of ground area. However, there were several disadvantages to the water sealed gas holder. The water inside the holder had to be heated so that it would not freeze in winter and cause structural cracking of the brick, concrete, or steel. Snow had to be removed from the top of the gas holder to prevent tilts in the lift and jams on the interior of the holder. Water naturally deteriorated other container materials, and over time, maintenance crews were continually employed to perform expensive repairs caused by the water within the holders. Due to the water pressure within the holders, these structures also had to be reinforced along their lower levels to prevent structural failure from interior water pressure. To be fully functional, the pressure within the holder needed to be constant; however, the pressure within the water gas holder varied with the position of the lifts (Latrobe 1941:132-34; Morgan 1935:7-11, 23-27). In Baltimore, the largest gas holder prior to the construction of the

Cold Spring Lane holder had been built by the Bartlett Hayward Company in 1912. The holder was 222 feet high and 219 feet in diameter and had a capacity of six million cubic feet (Olson 1980:259-60).

The first successful waterless gas holder was designed in 1914 by Dr. K. Jagschitz for Maschinenfabrick Augsburg-Nurnberg A.G. The American patent rights to the M.A.N. waterless gas holder were acquired by the Bartlett Hayward Company in 1923. The first U. S. gas holder of this type was constructed in 1925 in Michigan City, Indiana, for the Northern Indiana Gas and Electric Company. The holder was 105 feet in diameter and 136 feet high. Three months later, a second waterless holder was constructed for the New York & Queens Gas Company in Flushing, New York. This new holder had three times the capacity of the Michigan City model (Latrobe 1941:135; Morgan 1935:32).

The waterless gas holder is polygonal in shape with 10 to 28 sides depending on its intended capacity. Instead of several lifts floating by water, the structure utilizes a piston at the center of the holder that moves up and down according to the gas level. The piston is guided by rollers to prevent the piston from tilting. Tar is used to seal the structure and prevent leaks. A canvas strip is attached around the edge of the piston and held in place by a series of weights forming a cup. Tar is pumped into the cap and creates a gas tight seal between the piston and the shell of the container (Latrobe 1941:134-35; Morgan 1935:33-35).

The waterless gas holder is supported by a reinforced concrete foundation slab on which the bottom of the gas container is constructed. The piston is constructed on top of the base holder. The roof then is erected on supports that rest on the piston. Machinery that allows for the raising of structural material as the shell of the tank is constructed is placed on the roof. The piston is raised to a new height in the tank with the construction of each level, and it is hung from supports attached to the shell's frame. The roof is raised and fixed in its final position, as is the piston, when the complete shell has been erected (Morgan 1935:36-37).

The waterless gas holder had several advantages over the water gas holder that made it the standard design for American gas companies almost immediately. The primary advantage was the lower construction costs realized by the elimination of water within the containment process. The steel and concrete used in construction of the holders did not require heavy reinforcement. The load that the foundation had to carry for a 6 million cubic foot water holder was 45,000 tons, while the load for a waterless holder of the same capacity was only 3,000 tons. The operation of the holder also was easier in the cold weather because no water needs to be heated to avoid freezing. Since the container had a roof, snow removal was eliminated.

In the year that Bartlett Hayward Company introduced the M.A.N. waterless gas holder, the company built nine holders with a combined capacity of 46,500,000 cubic feet. Eight water gas holders built by the company in the same year had a combined capacity of 18,660,000 cubic feet. In 1925, no water gas holders were built, but eleven waterless holders with a combined capacity of 72,270,000 cubic feet were constructed. Only one water gas holder was built by the company in 1926, in contrast to seven waterless gas holders. No water gas holders and nine waterless gas holders were built in 1927. By 1935, approximately fifty waterless gas holders were in operation in the U.S., making up about one quarter of the total storage capacity in the United States at that time (Latrobe 1941:135,137; Morgan 1935:32).

By late 1932, the Bartlett Hayward Company had changed the shape of the waterless gas holder from polygonal to circular. The interior guides for the piston were replaced by a single centered guide column on which the piston rode up and down according to the gas level in the holder. With this change, the company stopped making the polygonal shaped waterless gas holders (Latrobe 1941:138,140).

The waterless gas holder at Cold Spring Lane, while illustrating the waterless gas holder design as originally introduced in the U.S. in 1924 by the Bartlett Hayward Company, it does not represent the first waterless gas holder built in the U.S. or in Baltimore. By 1932, design improvements changed the shape of the holder from polygonal to circular, and refined the interior piston mechanism. This change in shape made the Cold Spring Lane gas holder obsolete within months of its completion. Additionally, the development of this type of gas holder is not associated with U.S. engineering history, but rather designed by a German engineer whose plans were bought by Bartlett Hayward and patented in the U.S. by them. Therefore, the gas holder complex, which is only one component of a much larger distribution system, does not possess the qualities of individual significance necessary for listing in the National Register of Historic Places and is not part of an historic district.

# MARYLAND COMPREHENSIVE HISTORIC PRESERVATION PLAN DATA

Geographic Organization: Piedmont

Chronological/Development Period(s): Modern Period A.D. 1930-Present

Prehistoric/Historic Period Theme(s): Economic

Resource Type:

Category: Structure

Historic Environment: Industrial

Historic Function(s) and Use(s): Gas holder and meter house

Known Design Source: Bartlett-Hayward Company

#### SECTION 9: MAJOR BIBLIOGRAPHIC REFERENCES

Baltimore Sun

1931 An Old Illuminant Adapted to a New Stride: Gas, Strange Fuel

Introduced Here 115 Years Ago, Now Cooks Bulk of City's Food. July

19.

1932 Gasholder Bill is Signed by Jackson. February 9.

1932 Job Relief Plan Used at Gasholder. July 23.

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BG&E, Baltimore, Maryland

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Pratt Library

Vertical Files "BG&E"

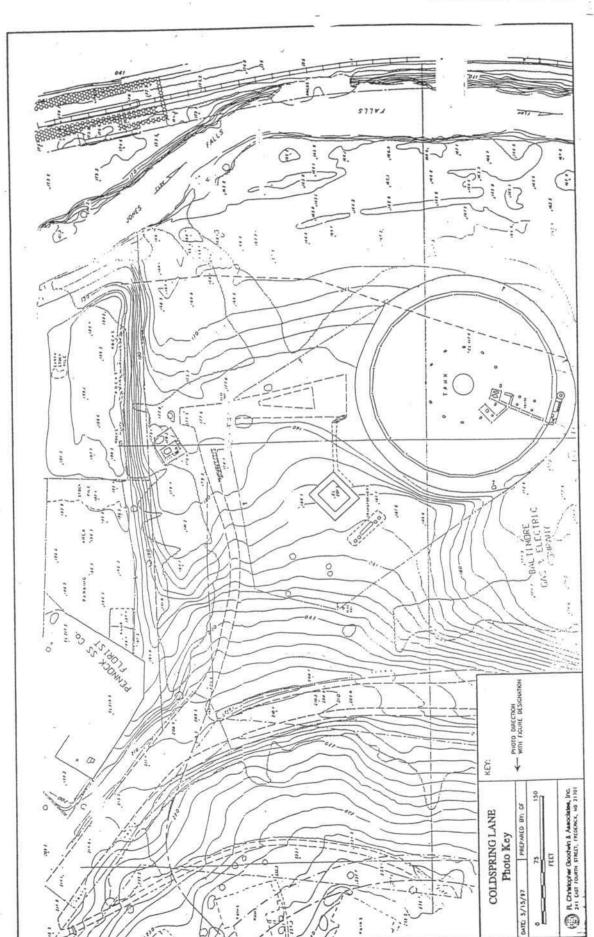
SECTION 10: GEOGRAPHICAL DATA

# **Boundary Description**

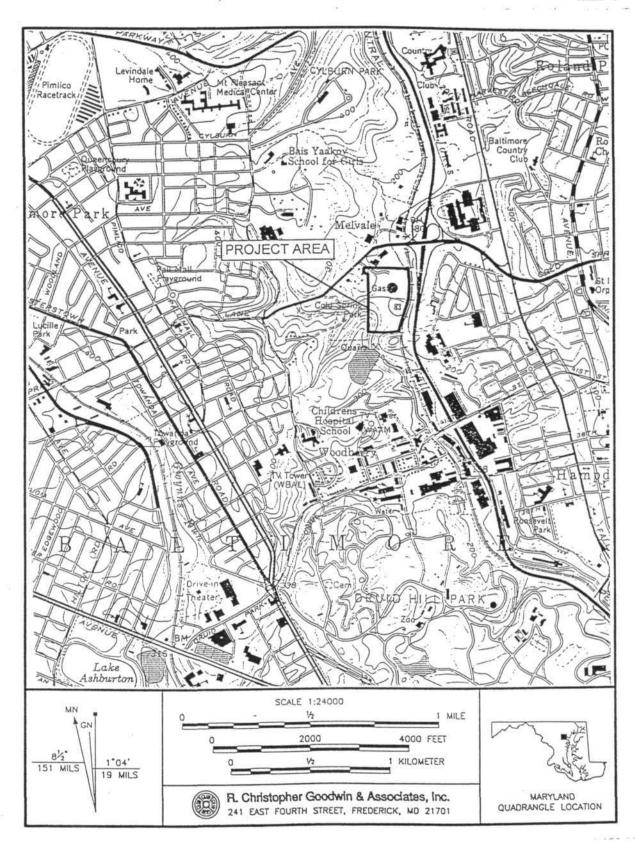
The property is bounded on the east by Jones Fall and on the south and west by property owned by the City of Baltimore. The northern boundary is defined by the Pennock and Calvert Florist Company which front onto Cold Spring Lane.

# **Boundary Justification**

The boundary defines the original property as acquired by Baltimore Gas and Electric Company (BGE) in 1932.



Survey No. B-4431 Gas holder, Waterless Baltimore City, Maryland USGS Map



Survey No. B-4431 Gas holder, Waterless Baltimore City, Maryland Photographs

The following is the same information for all photographs:

- 1. Survey No. B-4431
- Gas holder, Waterless
- 3. Baltimore City, Maryland
- 4. Katherine Grandine
- December 1997
- 6. MD SHPO

#### **Photo Number**

- View of gas holder looking south.
- View of meter house looking west.
- View of meter house looking east.
- 4 7. Overall view of complex looking southeast.
- View of gas holder looking northeast.
- 6 7. Detail of exterior construction on north elevation looking south.
- 7. Detail of exterior construction on south elevation looking north.



B-4431 GASHOLDER, WATERLESS BACTIMORE CHI MY K. GRANDINE 12/97 MD-SHPO VIEW OF GASHOLDER LOOKING SOUTH SEE HOLDER LOOKING SOUTH

1:7



B-4431 GASHOLDER, WATERLESS BALTIMOIZE CITY. MD K. GRANDINE

12/97 SZØ NHGØ+NNNH ZØ-S8 HOL

MD-SHPO

VIEW OF METER HOUSE LOOKING WEST

2:7



B-4431

GASHOLDER, WATERLESS

BALTIMOIZE CITY. M)

K. GRANDINE

12/97

MD-SHPO

VIEW OF METER HOUSE LOOKING EAST

3:7



B-4431 CAS FIXEDER, WATERLESS BALTIMORE CITY, MD K. GRANIJINE MD-SHPO TCP 83-02 NNNNN+01AU 025 OVERALL MILL OF CONTEX LOOKING SOUTHEAST 4:7



BALTIMORE CHY MD

K. GRANDINE

12/97

MD-SHPO

VIEW OF GASHOLDER LOOKING NORTHEAST

5:7



B-4431 GASHOLDER, WATERLESS BALTIMORE CITY, NID K. CRAIVINE 12/97

MD-SHPO

DETAIL OF EXTERIOR CONSTRUCTION ON NORTH ELEVATION LOOKING SOUTH

6:7



B-4431 GISHOLDER, WATERLESS BACT TOKE CITY, MD

K. GRANDINE 12/97 MD-SHPO

DETAIL OF EXTERIOR CONSTRUCTION ON SOUTH ELEVATION LOOKING NORTH